**Amendments to the Specification**

1.) Please replace the paragraph beginning at page 13, line 33, with the following rewritten paragraph:

FIG. 3 illustrates transmission of pilot signals according to the invention. A known channel estimate sequence P(k) in the frequency domain is provided to a block 308. In the block 308, the sequence P(k) is Inverse Fast Fourier Transformed to a sequence p(n). The sequence p(n) is fed to a block 360, to a block 381 and to a block 382. In the block 360, a cyclic prefix CP is inserted to precede the sequence p(n). In a further embodiment, a cyclic suffix could be used. The cyclic prefix CP mitigates intersymbol interference (ISI) effects. Then the sequence p(n) is provided to a Digital-to-Analog (D/A) converter 370 where it is converted to an analog signal. Then the D/A converted sequence p(n) is provided to a first antenna x1. In the block 381, the sequence p(n) is cyclically rotated (CR) by a predetermined step comprising a predetermined number n' of positions in the sequence and thereby transformed to a sequence p(n-n'). Thereby, the sequence p(n-n') is provided to a block 361. In block 361, a cyclic prefix CP is inserted to precede the sequence p(n-n'). Thereafter, the sequence p(n-n') is provided to a Digital-to-Analog converter 371 where it is converted from a digital to an analog shape. Then the D/A converted sequence p(n-n') is provided to a second antenna x2. The two sequences are then transmitted concurrently from the antennas x1 and x2 to a wireless terminal 330 provided with at least one antenna y1, y2. In an embodiment comprising three antennas, the training sequence p(n) is in the block 382 cyclically rotated by a second predetermined step comprising (n"-n') positions in the sequence and thus transformed to a sequence p(n"). The sequence p(n-n") is thus provided to a block 362. In block 362, a cyclic prefix CP is inserted to precede the sequence p(n-n'). Thereafter, the cyclically extended sequence p(n-n') is provided to a Digital-to-Analog converter (D/A) 372 where it is converted from a digital to an analogue shape. Then the D/A converted sequence p(n-n') is provided to a third antenna x3. The three sequences are then transmitted concurrently from the at least one antenna x1, x2 and x3 to the

wireless terminal 330 provided with the antenna y1. A man skilled in the art understands that the inventive system may comprise more than three antennas.

2.) Please replace the paragraph beginning at page 20, line 32, with the following rewritten paragraph:

Now, a receiver structure for OFDM will be disclosed with reference to FIG. 6. In FIG. 6, only one antenna is illustrated. However, a man skilled in the art understands that multiple antennas may be used. Signals are received at the antennas y1, y2 . . . yJ, where J is an integer ranging from 1 and upwards limited only by practical concerns such as space, power consumption, cost etc. In FIG. 6 only the first antenna y1 is shown. The signal received at the antenna y1 is provided to a block 612, where it is amplified (AMP) to an appropriate level for reception by means of an amplifying stage, often with Automatic Gain Control (AGC). Then, the amplified signal is provided to a block 614, being an A/D converter, where the signal is converted from an analog shape to a digital shape and samples are taken of the received amplified signal at successive times. Then, the digital signal is provided to a block 616, where frequency and OFDM timing synchronization (SYNC) is performed. The timing synchronization is often based on particular training symbols for this specific purpose, but other methods known for the man skilled in the art may be used. When the timing synchronization has been performed, the signal is provided to a block 618, where the cyclic prefix (CP) is removed. A discrete and complex valued sequence $r_{P,1}(n)$ comprising training information is provided from the block 618 to a channel estimation block 650, which will be disclosed in more detail below. A signal $r_{S,1}(n)$ comprising modulated data from multiple transmit antennas and affected by the channel is provided from the block 618 to a block 620, where a Fast Fourier transformation (FFT) is performed. The block 620 provides a signal $R_{s,1}(k)$ for each receiving antenna y1, y2 . . . yJ per OFDM symbol interval. The signal $R_{s,1}(k)$ is provided to a demodulation/decoding (DEMOD/DECODE) block 634, where channel equalization, de-interleaving, FEC (forward error correction) decoding and de-scrambling is provided.

3.) Please replace the paragraph beginning at page 21, line 28, with the following rewritten paragraph:

In order to decode the data that will be sent, the channel need to be estimated. The channel estimation is made in the block 650. The signal $r_{P,1}(n)$ from block 618 is provided to a block 660, where a Fast Fourier Transformation (FFT) is performed resulting in a signal $R_{P,1}(k)$. The signal $R_{P,1}(k)$ is provided to a block 662, where the signal $R_{P,1}(k)$ is divided by a training symbol P(k) (/P(k)). The result from block 662 is provided to a block 664, where an Inverse Fast Fourier Transformation (IFFT) is performed. When the training symbol sequence arrives, the time domain signal is switched Into the channel estimation stage, where a composite channel impulse response h'(n) is extracted. The composite channel impulse response h'(n) is then fed from the block 664 to a block 666. In block 666, individual channel impulse responses (CIR) for this particular reception antenna y1 and all transmit antennas are then extracted and fed to the decoding/demodulation block 634. The decoding/demodulation block 634 uses the channel estimates when the signals $R_{S,1}(k)$, $R_{S,2}(k)$, . . . , $R_{S,J}(k)$ are processed. The signal processed in block 634 is then output 630 to higher layers.